

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

Claims 1-27 (canceled previously)

28. (Currently Amended) A composition that confers protective immunity against Hantavirus infection, comprising

- (a) an inert particle suitable for carrying a polynucleotide stably coated thereon, and
- (b) a polynucleotide coated onto the particle, which polynucleotide comprises a promoter operative in a mammalian cell and a hantavirus M gene segment encoding a G1 glycoprotein and a G2 glycoprotein,

wherein when the composition is administered to a mammal [expression of] both G1 glycoprotein and G2 glycoprotein [is] are expressed in an amount effective to confer protective immunity against Hantavirus infection.

29. (Previously presented ) The composition of claim 28, wherein the hantavirus is selected from the group consisting of Seoul virus, Dobrava virus, Hantaan virus, Puumala virus, Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus.

30. (Previously presented ) The composition of claim 28, wherein the hantavirus is the Seoul virus.

31. (Previously presented ) The composition of claim 28, wherein the hantavirus is the Dobrava virus.

32. (Previously presented ) The composition of claim 28, wherein the hantavirus is the Hantaan virus.

33. (Previously presented) The composition of claim 28, wherein the polynucleotide comprises SEQ ID NO:1.

34. (Previously presented) The composition of claim 28, wherein the polynucleotide comprises SEQ ID NO:3.

35. (Previously presented) The composition of claim 28, wherein the promoter is the cytomegalovirus immediate early promoter.

36. (Previously presented) The composition of claim 28, wherein the inert particle is selected from the group consisting of gold particles, silver particles, platinum particles, tungsten particles, polystyrene particles, polypropylene particles, and polycarbonate particles.

37. (Currently Amended) A method for inducing a protective immune response to a hantavirus protein in a mammal comprising

(a) coating onto an inert particle a polynucleotide comprising a promoter operative in a mammalian cell and a hantavirus M gene segment encoding a G1 glycoprotein and a G2 glycoprotein, wherein the hantavirus protein and the hantavirus M gene segment are derived from the same species of hantavirus; and

(b) accelerating the inert particle of (a) into epidermal cells of a mammal in vivo, under conditions that both G1 glycoprotein and G2 glycoprotein are expressed in an amount effective to generate an immune response sufficient for protection in the mammal against a challenge by a hantavirus of the same species as the hantavirus protein and the hantavirus M gene segment are derived from.

38. (Previously presented) The method of claim 37, wherein the species of hantavirus is selected from the group consisting of Seoul virus, Dobrava virus, Hantaan virus, Puumala virus, Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus.

39. (Previously presented) The method of claim 37, wherein the hantavirus is the Seoul virus.

40. (Previously presented) The method of claim 37, wherein the hantavirus is the Dobrava virus.

41. (Previously presented) The method of claim 37, wherein the hantavirus is the Hantaan virus.

42. (Previously presented) The method of claim 37, wherein the polynucleotide comprises SEQ ID NO:1, and the hantavirus species is Seoul virus.

43. (Previously presented) The method of claim 37, wherein the polynucleotide comprises SEQ ID NO:3, and the hantavirus species is Seoul virus.

44. (Previously presented) The method of claim 37, wherein the promoter is the cytomegalovirus immediate early promoter.

45. (Previously presented) The method of claim 37, wherein the inert particle is selected from the group consisting of gold particles, silver particles, platinum particles, tungsten particles, polystyrene particles, polypropylene particles, and polycarbonate particles.

46. (Previously presented) A method for inducing a protective immune response to a Seoul hantavirus protein in a mammal comprising

- (i) coating onto an inert particle a polynucleotide comprising a nucleic acid encoding a Seoul hantavirus M gene segment protein comprising the sequence set forth in SEQ ID NO:1 operatively linked to a promoter active in cells of a mammal;
- (ii) accelerating the particles of (i) into epidermal cells of the mammal in vivo, to generate an immune response sufficient for protection against a Seoul hantavirus challenge in the mammal.

47. (Previously presented) The method of claim 46, wherein the polynucleotide comprises SEQ ID NO:3.

48. (Currently Amended) A method for inducing in a mammal a protective immune response against infection from at least one virus selected from the group consisting of the Seoul virus, the Dobrava virus and the Hantaan virus, comprising

- (a) coating onto an inert particle a polynucleotide comprising a promoter operative in a mammalian cell and a Seoul hantavirus M gene segment encoding a G1 glycoprotein and a G2 glycoprotein; and
- (b) accelerating the particles of (a) into epidermal cells of the mammal in vivo under conditions that both G1 glycoprotein and G2 glycoprotein are expressed in an amount effective to generate an immune response sufficient for protection in the mammal to a hantaviral challenge of the Seoul virus, the Dobrava virus and/or the Hantaan virus.

49. (Currently Amended) A vaccine for protection against infection by at least one hantavirus selected from the group consisting of the Seoul virus, the Dobrava virus and the Hantaan virus, comprising a composition comprising

- (a) an inert particle suitable for carrying a polynucleotide stably coated thereon, and

(b) a polynucleotide coated onto the particle, which polynucleotide comprises a promoter operative in a mammalian cell and a Seoul hantavirus M gene segment encoding a G1 glycoprotein and a G2 glycoprotein,

wherein when the composition is administered to a mammal both G1 glycoprotein and G2 glycoprotein are expressed in an amount effective to confer protective immunity against Hantavirus infection.

50. (Previously presented) The method of claim 49, wherein the polynucleotide comprises SEQ ID NO:1.

51. (Previously presented) The method of claim 49, wherein the polynucleotide comprises SEQ ID NO:3.